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Marketing Bulletin No. 35

MARKET YOUR FRESH APPLES

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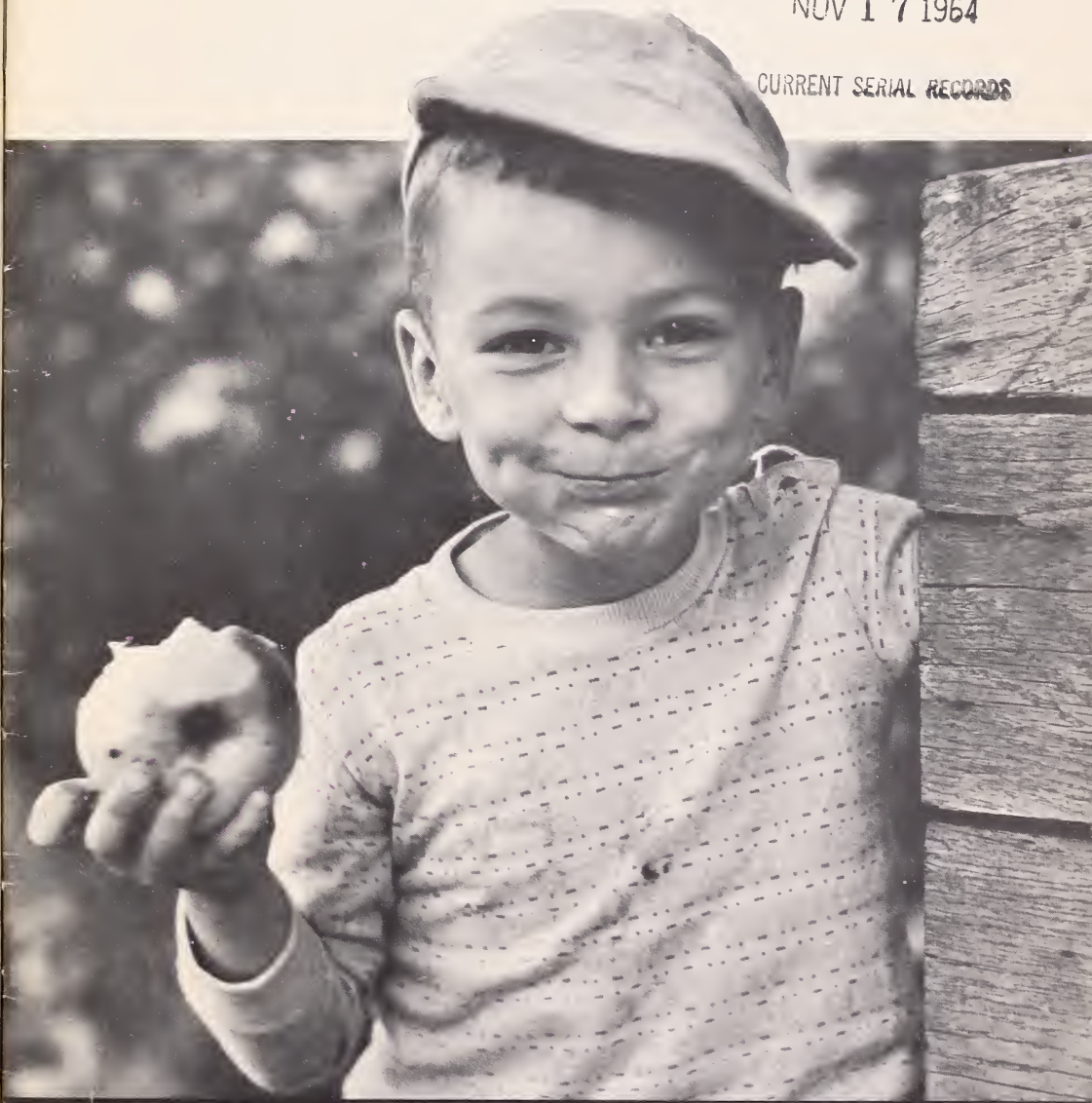

U.S. Department of Agriculture
Agricultural Marketing Service • Fruit and Vegetable Division

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MARKET YOUR FRESH APPLES

By W. W. Morrison, Marketing Specialist, Fruit and Vegetable Division, Agricultural Marketing Service

Are you marketing your apples or just putting them on the market? There's an important difference.

Effective marketing is becoming more and more important in determining the returns you'll get for your apples—because the whole apple industry is undergoing a revolution in marketing.

The basic factor behind this apple marketing revolution is the modern food market where apples are pitted against several thousand other items for their share of the consumer's food dollars.

Apple growers can no longer depend on consumers buying apples just because consumers have always bought apples before. There are too many other fresh fruits and too many processed foods that can be substituted for apples if the consumer doesn't like the quality of the apples she finds, or if they're not conveniently packed to meet her needs.

Retailers know this—and demand the kind of apples that will give them attractive displays and quick turnover. They require a dependable supply of high quality apples with good color, carefully handled to protect their quality, and rigidly graded and sized to enhance their appearance.

Growers who are not equipped to furnish this kind of product, packed to meet the retailers' needs in both quality and quantity, are out of the running for the consumer's food dollar. This is a poor marketing position at a time when apple crops—and competition within the industry—are increasing.

This bulletin outlines marketing practices that will enable apple growers to deliver high-quality apples.

Where Does Your Competition Come From?

Apples are grown commercially in 35 States, but about 80 percent of the U.S. crop is produced in Washington, New York, Michigan, Virginia, Pennsylvania, West Virginia, and the New England States. These States rank approximately in that order in average annual production. Producing districts in Oregon, Maryland, Colorado, Idaho, Wisconsin, New Jersey, Illinois, Ohio, Indiana, Missouri and North Carolina are also nationally important.

The U.S. apple crop has averaged over 120 million bushels annually in recent years, with about 65 percent sold for use as fresh fruit.

The percentage of the crop going to the fresh market varies with the production area. Growers in Washington, Oregon, and Idaho ship about 90 percent of their production to the fresh market, while less than 30 percent of the California crop is sold for fresh use. Eastern and Central States usually sell from 60 to 70 percent of their production on the fresh market.

Commercial Varieties

Apple growers today are growing fewer and fewer varieties—concentrating their efforts on the relatively few varieties which have demonstrated consumer sales appeal and which are best adapted to each particular soil and climate.

Washington growers specialize in production of Red Delicious, Winesap, and Golden Delicious—with new plantings of the latter rapidly increasing. Michigan's leading varieties are McIntosh, Jonathan, Northern Spy, and Delicious—both Golden and Red. Virginia and West Virginia production is now confined primarily to Red and Standard Delicious, Stayman, York Imperial, Golden Delicious, and Winesap. Pennsylvania continues to produce many varieties but the most important are York Imperial, Stayman, Rome Beauty, Delicious, Golden Delicious, Jonathan, McIntosh, and Cortland. New York still produces some of the well known older varieties such as Rhode Island Greening, Baldwin, and Rome Beauty in considerable volume, but McIntosh, Cortland, and Delicious are now the leaders for shipment as fresh fruits and continue to gradually replace many formerly familiar varieties. The New England States' principal varieties are McIntosh, Cortland, and Delicious although many formerly popular varieties are produced in minor volume. Oregon's apple tonnage is largely confined to Red Delicious, Golden Delicious, and Yellow Newtown.

Thus, United States apple production is dominated by the Delicious, McIntosh, Golden Delicious, Rome Beauty, Jonathan, Winesap, York Imperial, Stayman, and Cortland varieties in approximately that order. Limited shipments of Yellow Newtown (Albemarle Pippin), Northern Spy, Gravenstein, Rhode Island Greening, Baldwin, Grimes Golden, and various other varieties still reach specific markets in response to local demand.

HARVESTING

Timing the Harvest

Apple growing today is a specialized, technical job. The grower must fertilize, prune, and spray his orchard, and weigh developments such as dwarf plantings and "spur" type trees in an effort to get higher yields and a higher percentage of top-grade apples of the most desirable sizes.

But raising a high-quality apple crop is only part of the modern grower's job. He must also harvest the apples at just the right point of maturity, store them properly, and send them carefully on their way to market.

The timing of the harvest is critically important. If the apples are picked too soon, they will never develop the best eating quality—and will be later susceptible to scald and bitter pit. If they're picked too late, they will have a short storage life and be subject to serious storage diseases, particularly internal breakdown and soft scald.

Growers commonly use several indicators of proper harvest ma-

turity. One is the ease with which the fruit may be separated from the spur. At best, this has been a somewhat unreliable guide and if so-called "stop drop" sprays are used to prevent fruit loss it becomes completely invalid.

A frequently used index is the number of days from full bloom. To orchardists who are willing to keep careful records and properly allow for certain generally predictable variations due to changes in crop volume, weather conditions or occasional other causes, such timing has proven extremely helpful. The number of days from full bloom to maturity for certain varieties on which long-time studies have been made by U.S. Department of Agriculture specialists is shown in table 1.

With many varieties, color and appearance of fruit can be a particularly useful index. Blush or red color may not be a reliable indicator, but ground color (underlying green or yellow) is generally very helpful. Red sport strains of certain varieties tend to become fully red before maturity leaving little or no ground color for observation. However, observation of the color near the calyx or stem or of ground color of parent varieties grown in the same immediate vicinity often provides an important guide to maturity.

Firmness of flesh, as indicated by mechanical pressure testing, has been the subject of much experimental work but has not proved a reliable index of proper maturity for harvesting. However, pressure test measurements of firmness are very useful after harvest in making judgments of the fruit's probable storage and retail display life. (Fig. 1.)

Cutting, taste, and chewing tests by experienced growers, inspectors, and field men who work for shipping organizations are usually considered as most reliable. Varieties such as Red Delicious and Golden Delicious lose almost all sour, astringent taste at satisfactory maturity and in other varieties the degree of astringency is very noticeably re-

TABLE 1.—DAYS FROM BLOOM TO HARVEST BY VARIETY OF APPLES

Variety	Optimum	General range
Delicious (including red sports)	142–148	140–155
Golden Delicious	Color pick at white or silver within general range.	145–160
Rome Beauty	162–168	160–180
Winesap	162–168	155–175
Newtown	162–168	155–175
Stayman Winesap	158–164	150–165
McIntosh	132–138	130–142
Jonathan	130–136	128–140

NOTE: Data for all except Stayman, McIntosh, and Jonathan are from tests with Western apples. In a general way this data should apply to other U.S. areas. These are considered the most reliable figures available at the end of 1963.

N—44206

Figure 1.—This pressure tester measures the firmness of fruit, which helps to forecast its storage life. The light goes on when the flesh of the fruit has been depressed to a given measurement, and the gauge measures the amount of pressure required.

duced. Proper maturity is also usually associated with the development and color of seeds as well as with loss of toughness and other changes in flesh texture which are judged by cutting and chewing.

Research has shown that the presence of watercore in the fruit tissue must be considered in determing picking dates. This functional disease appears before harvest and develops first in apples exposed to direct sunshine on the south and west sides and in tops of trees. Tests of fruit from these locations should reveal watercore, if present, and its stage of development. Since watercore becomes more severe in unpicked apples its presence is a definite sign that fruits should be harvested without delay to avoid internal breakdown during the storage period.

Thus, as a practical man with a season's work and investment in his crop, the grower must base the critical decision of when to pick apples on a number of factors.

Growers usually establish a tentative harvest date on the basis of the number of days from full bloom, and watch the fruit closely before this date for signs of maturity. If sound fruit—not treated to prevent loosening from the spur—has a tendency to drop, develop watercore, lose astringency and toughness of the flesh, or show breaking ground color, they move up the time of picking. However, if on the tentative date the apples are still hard, tough or starchy, with deep green ground

color and astringent or bitter taste, they delay harvesting.

From Tree to Packing Plant or Storage

Apples must be handled carefully from the moment they leave the tree. Carelessness at any stage in preparation for shipment and throughout the marketing process can cause bruises or other damage that will seriously lower the value of the fruit.

Practically all important growing areas use reinforced canvas picking bags or canvas covered "buckets" as picking containers. (Fig. 2.) These are practical, partially-cushioned folding receptacles that help protect the apples from bruising as they are filled, and which—when emptied with reasonable care—allow the apples to flow slowly into field boxes without falling or bruising.

Growers use various types of field containers—Eastern or West-

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Figure 2.—This type of picking container can be filled and then emptied into the field box with very little bruising of the fruit.

BN–5580

Figure 3.—Tractors—such as this one with both front and rear lift equipment—are used in the orchards to load the apples onto trailers or trucks for transport to storage or packing plants.

ern wooden apple boxes, crates, lugs, baskets, and large pallet boxes holding from 14 to 25 bushels. The trend in most areas is toward use of more and more pallet boxes, though time and cost studies indicate little, if any, advantage for pallet boxes unless the tonnage handled is relatively large.

Pallet boxes make it easier to use power machinery—lift-equipped tractors (figs. 3 and 4) and straddle-type lift trucks (fig. 5)—in moving the picked fruit to storage or to packing plants, and therefore offer speed and economy in handling large crops. Also, if the fruit is carefully placed in pallet boxes, there is usually less bruising than when smaller containers are used.

BN–5791

Figure 4.—This lift-equipped tractor is loading full pallet boxes onto a flatbed trailer.

Most producers use lift-equipped tractors to transfer pallet boxes or pallet loads of smaller containers to flat-bed trucks or trailers which move them to storage or packing houses.

The equipment used in each orchard must be tailored to the orchard terrain and the size of the operation. Whatever method of transportation is used, the object is to move the fruit without bruising or other injury, and with as little delay as possible.

PACKING PLANTS

Packing plants in most important producing areas have changed radically in recent years. No longer are apples packed in the small, crowded, ill-equipped shelters of the past. The typical modern packing plant is specially-designed for handling apples, with plenty of floor space, adequate equipment for full mechanical handling, high-volume capacity, and specialized management.

Some forty years ago, producers in the Pacific Northwest pioneered the "central pack" system. Cooperative groups, large volume corporate producers, or groups of growers affiliated with sales agencies, concentrated enough fruit to achieve the economies of mechanization in large scale packing and cold storage operations. The competition between these facilities also fostered a continuing

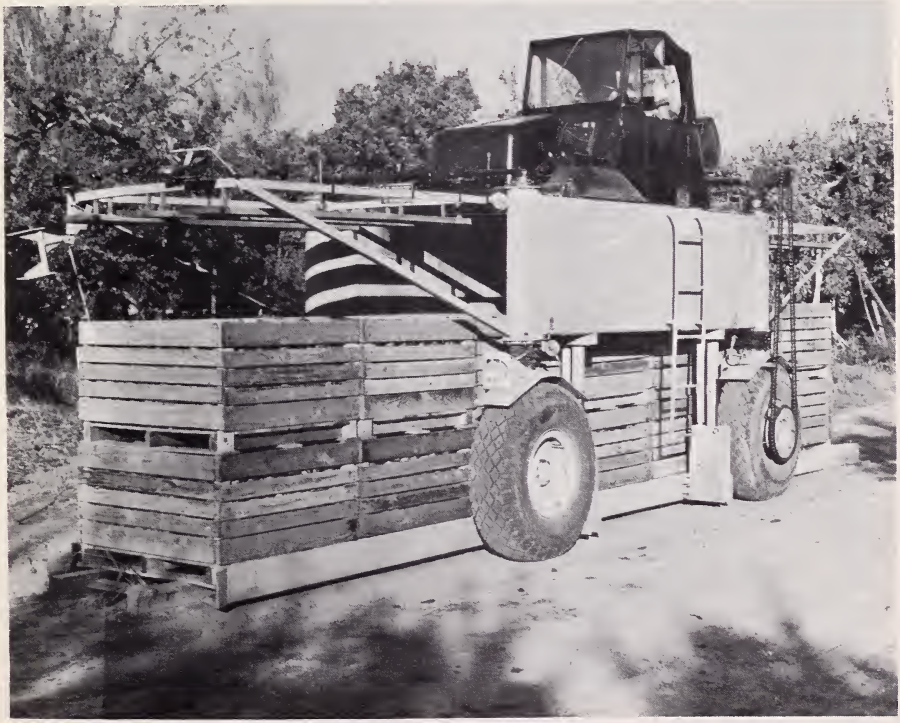

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Figure 5.—Straddle-type fruit truck picks up the bulk boxes in the orchard, can transport them on the highway as well.

search for new methods, machines, and packaging practices to save time and labor, and reduce injury to apples.[1] For these reasons the Northwest areas switched from their traditional wooden boxes to the now generally used fiberboard cartons more easily and rapidly than some other areas made the transition from their formerly used baskets and boxes.

The Appalachian area has historically had many large volume producers. Several orchards in West Virginia, Virginia, Pennsylvania and Maryland contain several hundred acres all under individual or family control. Comparatively large mechanized packing and storage facilities have long been a necessity for such producer-shippers but such facilities were in many instances not fully adapted for handling carton packs until the early and middle 1950's. Since then there has been a complete change in the method and type of operation in both large and small packing plants. Many new packing and storage plants have been built to make use of the most modern equipment and methods currently available to the industry. Now the latest developments in pallet boxes, forklift trucks, lift-type tractor trailer units, drum or water flotation dumping of field containers (large or small), individual lane sorting, weight or new-type dimension sizing, automatic pallet box fillers, semi-automatic tray packers, and other innovations are in common use, all operated with the aim of lower unit costs and more careful fruit handling.

Like many grower-shippers of the Appalachian area, most Michigan apple producers were comparatively slow to abandon their established Eastern-box and basket-packing operations. However, during the last few years, many new packing plants have been built or are now in planning or building stages. At the start of 1963, a great majority of Michigan packing plants were less than 10 years old and most were equipped with modern handling, washing, sizing, and other packing plant machinery. This enables most Michigan shippers to pack any type package requested by buyers.

In New York, most large volume producers have recently built modern, spacious packing plants fully equipped with the latest types of machinery. Many other growers in the medium volume class are utilizing at least some of the modern methods and machines, while relatively small producers have been rather slow to make changes. For instance, apples are still sized by chain or eye in a majority of New York packing houses—and in many cases every operation is completely manual.

New England is the last major apple producing area in which relatively small grower-operated packing houses with little or no mechanical equipment are predominant. Although the lack of machinery may often be because of the small size of operation, it is also due in part to the fact that the most commonly grown variety,

[1] See U.S.D.A. Marketing Research Report No. 49, *Apple Handling Methods and Equipment in Pacific Northwest Packing and Storage Houses.*

BN—5798

Figure 6.—A mechanical dumper is used here to empty the heavy pallet boxes onto the packing line.

McIntosh, is so very easily bruised that mechanical handling has been thought to be too damaging to the fruit and therefore impractical. Research studies indicate that this variety can be handled by certain types of machines with very little injury, but reliance on a complete manual operation is still common in this area.[2] There are various large, well equipped packing plants in New England but to date these are the exceptions.

PACKING PLANT OPERATION AND EQUIPMENT

Transferring Fruit From Field Containers

In a few packing houses which are otherwise well equipped with machinery, dumping fruit from field containers is still a hand operation, but in most high volume packing, this is done mechanically.

Some machines slowly turn the box, lug, or pallet box, allowing apples to roll gently to a moving belt or roller type conveyor (fig. 6). "Drum" type dumpers first cover and then invert the container, (fig. 7) slowly releasing the fruit to a conveyor. The newest and probably the least damaging method is "flotation", in which the field containers are completely immersed in moving water which floats the apples out of the containers to the rollers which carry them onto the packing line.

Washing or Brushing

Apples are brushed as a part of the washing process in Pacific Northwest packing plants. Washing or brushing or both are also common in most mechanized operations in the Appalach-

[2] See U.S.D.A.—AMS Marketing Research Reports No. 543, *Packing Apples in the Northeast* and No. 330, *An Experimental Packing Line for McIntosh Apples.*

ian, Michigan and New York areas.

In New England and in some New York districts where the easily-bruised McIntosh is important, many producer-shippers have believed that, particularly after a period of storage, washing or brushing injures the fruit and that apples should always be handled manually. Research by the Transportation and Facilities Division of AMS has largely disproven any necessity for manual handling but undoubtedly the belief continues to be held by some producers and shippers in those areas.[3]

With the exception of the New England area where washing and brushing is still rather limited, most of the Nation's apple shipments are washed and/or brushed as a part of the grading-sizing-packing process.

Sorting for Quality

Separating apples into grades remains largely a matter of trained human judgment. It is now generally done entirely by eye, according to color, varying shape, and degree of defects such as russeting, scars, etc. A few machines which segregate apples according to the degree of red color have been operating during recent seasons. Such equipment is now quite costly but will probably become commonplace as it is improved and adapted to specific needs. However, apples which are machine sorted for color must still be sorted for defects on the basis of human judgment. Also,

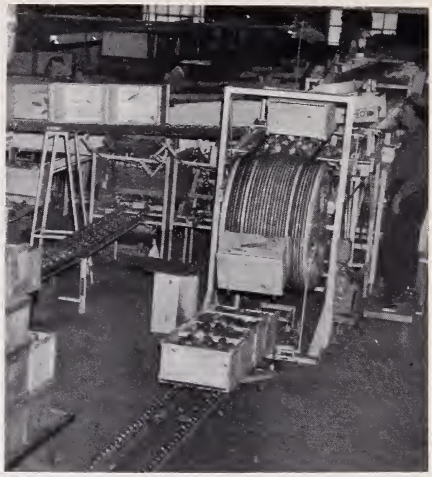

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Figure 7.—Drum-type dumper is used to empty small field boxes.

much research has been and is now being devoted to developing electronic devices to evaluate degrees of internal discoloration, such as watercore, and possibly to determine maturity stages. Such objective sorting aids hold considerable promise for the future but any general commercial use is probably some years away.

There has been considerable effort in recent years to speed and improve the human sorter's work. Research studies of the sorting process show that sorters are usually more efficient and accomplish considerably more when sorting tables are divided into lanes, so that each sorter is responsible for the fruit moving in one lane only.[4]

Coupled with single lane sorting is the "float-roll" sorting table, built so that both forward speed and roll rotation speed are in-

[3] See U.S.D.A.—AMS Report No. 330 *An Experimental Packing Line for McIntosh Apples.*

[4] See U.S.D.A.—AMS Marketing Research Report No. 230, *Apple Sorting Methods and Equipment.*

BN–7510

Figure 8.—This machine sizes apples by diameter with minimum damage to the fruit. Note the cross-conveyors that carry the separate sizes of apples to the packers.

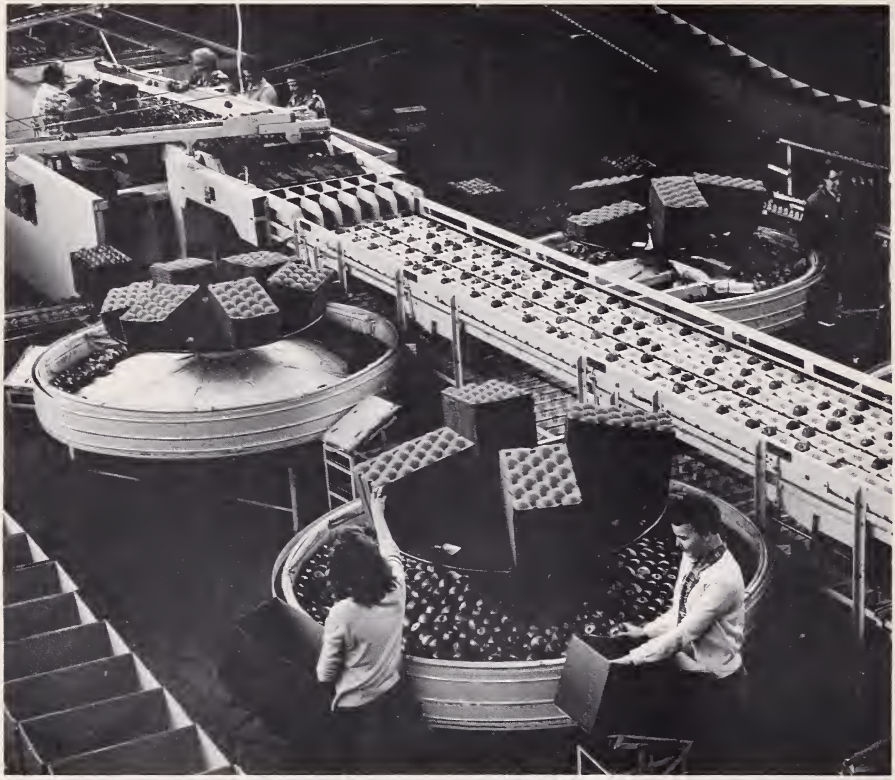
dependently controlled. With this type of table, sorters' efficiency was again increased. Thus, research points the way to important cost reductions for a process that, in most respects, does not adapt to automation and will probably always require a considerable degree of trained subjective judgment.

The care and attention devoted to sorting for quality variation determines whether or not the final product meets the desired grade requirements or other specifications and is perhaps the most important operation in the packing plant.

Sizing

In the newer packing plants and in those which have adopted replacements for older methods, sizing is done with improved dimension or weight measuring devices. (Figs. 8 and 9.) The newer types of dimension sizers are designed to handle apples more gently and deliver more uniform sizing than the older types, such as those using metal chains with varying sized square openings. (Fig 10.)

A good sizing job is very important is preparing a desirably uniform pack. Uniform sizing also helps meet weight and pack requirements. While even the most modern sizing machines can not invariably turn out completely "look alike" apples, the improvement over visual or chain sizing is generally reflected in improved appearance and reduced brusing.



COURTESY OF F.M.C. CORP.

Figure 9.—Sizing equipment separates the apples according to weight and carefully conveys each separate size to the proper revolving "tub," to be traypacked in shipping cartons.

Packages and Packing

In both New York and New England most of the high quality medium-to-large size apples are packed in cell type cartons. The smaller sizes are usually packed in consumer-size bags and placed in master shipping cartons. Tray pack cartons and jumble-packed boxes and cartons are also used for sizable amounts of apples.

Michigan shippers pack about one-third of their apples in tray-type cartons while the remainder are generally packed in consumer-type bags in master cartons, or in jumble-packed cartons, baskets, or boxes. Bag packs currently lead any other type.

Illinois and Wisconsin packs are generally divided between consumer-package bags, tray pack cartons, and baskets. Ohio's pack is mostly consumer bags, with some tray pack and jumble cartons.

All of the far Western producing areas, as well as the Appalachian States, commonly use carton tray packs for the most desirable sizes of their best quality fruit, although cell type cartons are used for a portion of the Golden Delicious crop and occasionally for other varieties which are considered particularly susceptible to

bruising. Most of the smaller sized apples are packed in polyethylene consumer-package bags which are placed in master shipping cartons. In Oregon and Washington, apples usually are individually wrapped in tray pack cartons. In other areas tray packs are seldom wrapped.

Cell packing is always a hand operation. Tray-packing is most often done by hand although semi-automatic fillers are used in some packing plants to speed tray filling. (Fig. 11.) Bagging is done with machines which provide automatic weight filling. (Fig. 12.) The most common bag weights are 4, 6, and 8 pounds. In most areas, bulk or semi-bulk packs in boxes, baskets or cartons are common for short distance shipping or local sale.

COLD STORAGE

In Michigan, New York, New England and the Appalachian States the most common practice is to cold store most of the apple crop in bulk as it comes from the orchard. Later, as sales develop, the fruit is cleaned, sized, graded,

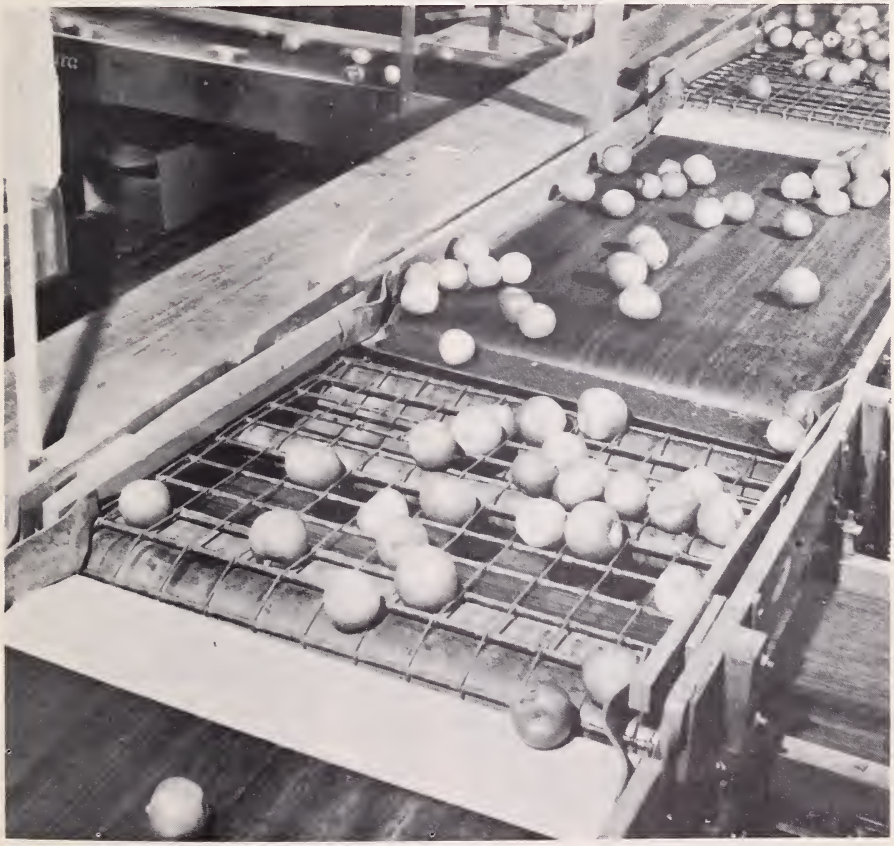


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Figure 10.—A chain-type sizing machine. Apples drop through the openings in the chains, to be carried off by the cross-conveyors below.

BN–10018

Figure 11.—Here apples are tray-packed for shipment.

BN–21408

Figure 12.—These machines automatically weigh out apples to fill consumer-size film bags.

and packed in response to orders received. There are some exceptions to this practice in these areas, as some shippers sort and size the fruit before bulk storage in pallet boxes. Also, a few large volume shippers prefer to pack fruit as soon after picking as possible and then sell from storage on the basis of a known inventory of varieties, sizes, and grades. Packing after the storage period and immediately before shipment affords a consistently fresh pack which is free from the defects which may develop in storage. This system also takes much of the rush and confusion out of the packing operation because the plant packs the same volume output over a longer time period.

Bulk storage has been made practical by the post-harvest use of the chemical scald inhibitors diphenylamine (DPA) and ethoxyquin (stop-scald), both of which controlled scald in research

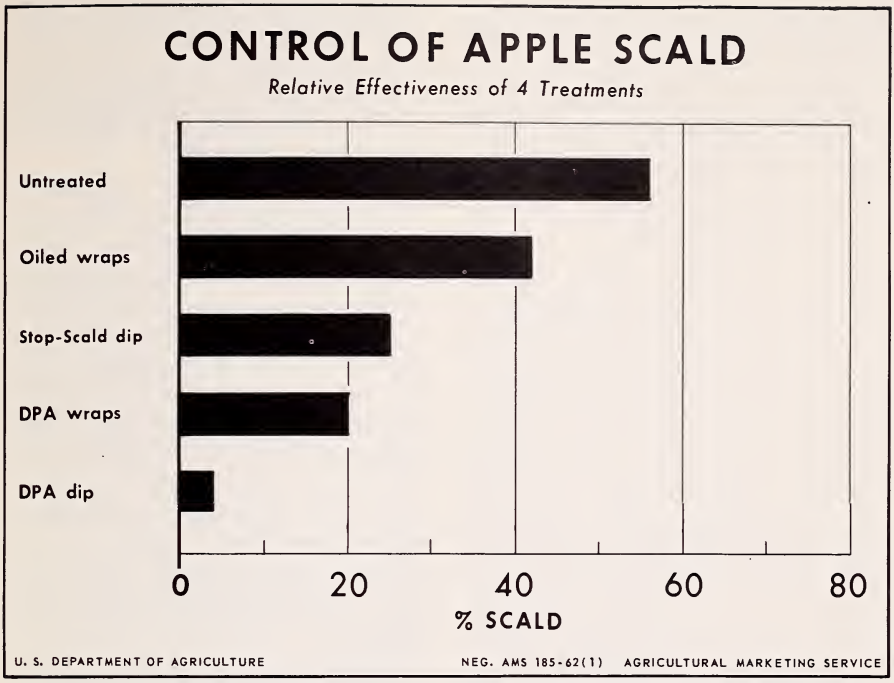

Figure 13.

tests much better than conventional oiled paper wraps. (Fig. 13.)[5]

Many western shippers are now rather rapidly changing to a system of storing bulk fruits and packing later in response to orders, although cold storing fruit packed immediately after picking has historically been the general practice in Washington, Oregon, Idaho, Colorado, and California. There have been advantages to immediate packing from the standpoint of the sales information made available and also because migratory workers help harvest and handle the fruit in most Western districts. Usually there is much more fruit than the local labor force can handle. Thus, it has been customary to harvest, grade, and pack with the help of seasonal workers, who stay for approximately two months and then move on. As mentioned before, this method provides completely inventoried, ready-to-ship storage lots—separated for variety, size and grade—from which orders can be quickly and accurately allocated. And generally speaking, packed apples wrapped in oiled paper wraps or surrounded with shredded oiled paper to inhibit storage scald have remained in reasonably sound con-

[5] See U.S.D.A.—AMS Marketing Research Report No. 538, *Chemical Control of Scald on Apples Grown in Eastern States.*

dition for several months in properly operated conventional cold storage.

Controlled atmosphere storage facilities, which greatly extend the storage life of apples by controlling the chemical content of the storage atmosphere, are being rapidly increased in all major production districts. This special type of storage was developed as a means of extending the storage life of the low-temperature-sensitive varieties such as McIntosh, Jonathan and Newtown, but is now also used for several other varieties. When held in controlled atmosphere (CA) storage, high quality apples can be marketed into late summer. At present CA storage probably represents less than 20 percent of the total cold storage space used for apples, but this percentage will undoubtedly increase steadily for some time. In most of the present CA installations, the atmospheric control is lost when the storage is opened to remove apples. Another controlled atmosphere system now gaining popularity allows rooms to be opened for withdrawals at any time with rapid renewal of the modified atmosphere when the room is resealed.

GRADES AND INSPECTION

Grades are the guidelines for market quality and provide the common language by which buyers and sellers describe apples in the bargaining process.

Standards for grades of apples are issued by the U.S. Department of Agriculture and by some State governments. In most production areas the U.S. grades are commonly used, but State grades are generally used by Washington and Oregon shippers.

The Federal-State inspection service is available in all important apple producing areas. When requested by a financially interested party, licensed Federal-State inspectors will inspect a shipment for an established fee and issue a certificate showing the variety, quality, condition, grade and size of the fruit, together with the type of pack, type of package and other pertinent information. Federal inspection is also available in all larger-market cities and adjacent locations throughout the country.

Federal-State or Federal certificates are prima facie evidence in all U.S. Courts, and inspection at shipping points on the basis of established standards is widely used as an impartial statement of fact which helps prevent misunderstanding and unjustified rejections.

Federal-State inspectors are also proving very useful to growers and shippers in some areas in determining percentages of color, picking bruises, or other factors in freshly picked lots. This helps growers instruct and judge the capabilities of their pickers, and enables shippers to control the quality of bulk fruit placed in storage. Some shippers also continuously maintain an inspector in their packing plants to help them control the quality of their packs.

Many shippers also put the appropriate U.S. or State grade on

their consumer-size packages, as a quality guide to the housewife.

PRODUCTION POINT SALE AND SHIPMENT

Sales at Shipping Point

Apples are generally sold by specialized sales personnel hired by shippers—who may be individual growers, growers' associations, organizations who have purchased fruit from growers, or companies or individuals acting as agents for growers.

Apples are sold by variety and type of pack as conforming with a specific Federal or State grade and specific counts or sizes. The understanding between seller and buyer may be reached by telephone, wire, letter, cable, or personal visit by one of the parties. Buying organizations frequently station a representative at shipping points where he deals with sellers in person.

Telephone bargaining is the most common method of sales agreement. Contracts consummated by telephone should be, and usually are, promptly and properly confirmed in writing to avoid possible misunderstanding or misinterpretation.

Car-lots or truck-lots are the common sales unit. Most purchases are made on a current demand basis, to fill an almost immediate retail need. This represents a gradual but radical change from the frequent speculative "large storage-block" buying that was common in far Western areas many years ago. Such immediate-need "hand-to-mouth" buying has been increasingly prevalent for years and appears now to cover nearly all domestic trading. Multiple lot buying is still occasionally done in the process of assembling export shipments.

Shipment

Shipments involving short or medium distances are practically always made by truck. Even relatively long distance shipment is most frequently made by trucks which are refrigerated or heated to maintain proper temperatures, although refrigerator rail cars, which are also heated when necessary, are widely used for very long-haul shipping such as from coast to coast.

When carefully loaded to allow proper temperature distribution and also to prevent movement of packages, the cartons presently used for most apple packs provide good protection for properly packed fruit shipped in either modern truck-trailer units or rail refrigerator equipment.

HANDLING APPLES AT RECEIVING MARKETS

Many growers recognize that they also have a vital stake in what happens to their apples at receiving markets. Careful handling there, and attractive display in the retail market, are very important to the overall sale of apples.

Some grower organizations have sponsored visits to large markets for their growers, so they can see for themselves how their crop is handled and displayed, and talk with marketing men about mutual problems.

Some organizations also have representatives who work with retailers, offering expert advice on such things as storage temperatures, handling, and display.

One of the simplest and easiest ways to encourage better handling of apples at the receiving market is illustrated by the printed reminders that one State apple organization offers its members to be sent along with their apples. They read:

"This load of apples is your responsibility! Keep it bruise-free.
"Protect us—Protect yourself.
"Don't walk on the cartons;
"Don't stand on the cartons;
"Don't throw the cartons;
"Don't drop the cartons;
"Don't kick the cartons;
"Don't up-end the cartons."

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